Author Index

Ahmed M.: Determination of fisheries benefits from floodplain riverine systems in Bangladesh: a mathematical programming approach, 599

Arieli Y., see Viola S.

Arnason A.N., see Papst M.H.

- Arreguin-Sanchez F., Chavez E.A. & Menchaca J.A.: A multispecies stock assessment of a pelagic coastal fishery of the south-west Gulf of Mexico,
- Avnimelech Y., Diab S., Kochva M. & Mokady S.: Control and utilization of inorganic nitrogen in intensive fish culture ponds, 421
- Baer S., Haller R.D. & Freyvogel T.A.: Growth of the African lungfish, Protopterus amphibius Peter, in aquaculture, 265
- Barak N.A.-E. & Mason C.F.: Population density, growth and diet of eels, Anguilla anguilla L., in two rivers in eastern England, 59

Bell J.D., see Quartararo N,

Blackshaw A., see Thorogood J.

Boccanera N., see Wallner M.

Braume E., see Kohla U.

- Briggs M.R.P.: A stress test for determining vigour of post-larval Penaeus monodon Fabricius, 633
- Campbell R.N.B.: Food of an introduced population of pikeperch, Stizostedion lucioperca L., in Lake Egirdir, Turkey, 71

Chang W. Y.B., see Springborn R.R. see also Liu K.M.

Chavez E.A., see Arreguin-Sanchez F.

Chevassus B., see Krieg F.

Chourrout D., see Foisil L. Cole W., see Phelps R.P.

- Cuende F.-X. & Prouzet P.: Comparison of Atlantic salmon, Salmo salar L., stocks exploited by commercial fisheries in the Adour Basin, France at the end of the 19th and 20th centuries, 373
- De Groot S.J.: Decline and fall of the salmon fisheries in the Netherlands: is restocking the Rhine a reality?, 253
- Degani G. & Gur N.: Growth of juvenile Trichogaster leerii (Bleeker, 1852) on diets with various protein levels, 161

Dessypris A., see Pavlidis M.

Diab S., see Avnimelech Y.

Dick T.A., see Papst M.H.

Dinis M.Y.: Aspects of the potential of Solea senagalensis Kaup for aquaculture: larval rearing and weaning to an artificial diet, 515

Donaghy M.J., see Shackley P.E.

Eddy F.B., see Williams E.M.

El-Sayed A .- F.M .: Effects of substituting fish meal with Azolla pinnata in practical diets for fingerling and adult Nile tilapia, Oreochromis niloticus (L.), 167 Elvingson P. & Siaunia L.O.: Determination of fat. protein and dry matter content of fish by midinfrared transmission spectroscopy, 453

Engel C.E., see Papst M.H. Engle C., see Springborn R.R.

- Fagobenro O.A.: Utilization of cocoa-pod husk in low-cost diets by the clariid catfish, Clarias isheriensis Sydenham, 175
- Foisil L. & Chourrout D.: Chromosome doubling by pressure treatments for tetrapoloidy and mitotic gynogenesis in rainbow trout. Oncorhynchus mykiss (Walbaum): re-examination and improvements, 567

Freyvogel T.A., see Baer S.

- Friebe J., see Kohla U. Fauvel C., Omnes M.H., Suquet M. & Normant Y.: Enhancement of the production of turbot, Scophthalmus maximus (L.), larvae by controlling overripening in mature females, 209 see also Suquet M.
- Garcia-Vazquez E., Pendas A.M. & Moran P.: Chromosome polymorphism in wild Atlantic salmon, Salmo salar L., from Asturias, northern Spain, 95

Glass M.L., see Williams E.M.

Grabowska K., see Wolfos A. Grau E.G., see Howerton R.D.

Gropp J., see Kohla U.

Gur N., see Degani G.

Hain S.: Maintenance and culture of living benthic mollusc from high Antarctic shelf areas, 1

Hales P.W., see Russell D.J.

Haller R.D., see Baer S.

Hansen T., Stefansson S. & Taranger G.L.: Growth and sexual maturation in Atlantic salmon, Salmo salar L., reared in sea cages at two different light regimes, 275

Hasan M.R. & Macintosh D.J.: Optimum food particle size in relation to body size of common carp,

Cyprinus carpio L., fry, 315

Hay D.W., see Shackley P.E. Haylor G.S.: Controlled hatchery production of Clarias gariepinus (Burchell): growth and survival of larvae at high stocking density, 303

- Haylor G.S.: Terminology for the early development stages of the African catfish, Clarias gariepinus (Burchell): working definitions for aquaculture,
- Haylor G.S.: Controlled hatchery production of Clarias gariepinus (Burchell 1822): an investigation of tank design and water flow rate appropriate for Clarias gariepinus in hatcheries, 659

Hecht T. & McEwan A.G.: Changes in gross protein and lipid requirements of rainbow trout, Onchorhynchus mykiss (Walbaum), at elevated temperatures, 133

Heggberget T.G., see Lund R.A.

Hegge O., see Hesthagen T.

Heisbrock L.T.N. & Kreuger J.G.: Feeding and growth of glass cel, Anguilla anguilla L.: the effect of feeding stimulants on feed intake, energy metabolism and growth, 327

Heisler N., see Williams E.M.

Hesthagen T. & Hegge O.: Stranding of pond- and hatchery-reared juvenile brown trout, *Salmo trutta* L., during draw-down of a pond, 399

Hilge V., see Kohla U.

Hindar K. & L'Abée-Lund J.H.: Identification of hatchery-reared and naturally produced Atlantic salmon, Salmo salar L., juveniles based on examination of otoliths, 235

Hislop J.R.G. & Webb J.H.: Escaped farmed Atlantic salmon, Salmo salar L., feeding in Scottish coastal water, 721

Holm J. Chr., see Jaworski A.

Howerton R.D., Okimoto D.K. & Grau E.G.: The effect of orally administered 17 α-methyltestosterone and 3,3'-triido-L-thyronine on growth of seawater-adapted tilapia, Oreochromis mossambicus (Peters), 123

Hulata G., see Rosenstein S.

Hvidsten N.A. & Johnsen B.O.: River bed construction: impact and habitat restoration for juvenile Atlantic salmon, Salmo salar L., and brown trout, Salmo trutta L., 489

Jaworski A. & Holm J. Chr.: Distribution and structure of the population of sea lice, Lepeophtheirus salmonis Kroyer, on Atlantic salmon, Salmo salar L., under typical rearing conditions, 577

Jensen A.L., see Springborn R.R. Johnsen B.O., see Hvidsten N.A. Johnstone R., see McLay H.A.

Katz T., see Phelps R.P.

Kavumpurath S. & Pandian T.J.: Effects of induced triploidy on aggressive display in the fighting fish, Betta splendens Regan, 281

Kazakov R.V.: Distribution of Atlantic salmon, Salmo salar L., in freshwater bodies of Europe, 461

Klaveness D.: Augmentation of the food supply for oyster larvae via bacterivorous flagellates: possible implications for larval breeding and oyster pond management, 591

Kochva M., see Avnimelech Y.

Kohla U., Saint-Paul V., Friebe J., Wernicke D., Hilge V., Braum E. & Gropp J.: Growth, digestive enzyme activities and hepatic glycogen levels in juvenile Colossoma macropomum Cuvier from South America during feeding, starvation and refeeding, 189

Kreuger J.G., see Heinsbroek L.T.N

Krieg F., Quillet E. & Chevassus B.: Brown trout, Salmo trutta L.: a new species for intensive marine aquaculture, 557

Kristiansen T.S. & Svåsand T.: Comparative analysis of stomach contents of cultured and wild cod, Gadus morhua L., 661

Kvasnička P., see Linhart O.

L'Abée-Lund J.H., Sægrov H. & Lura H.: Resource partitioning and spatial segregation in native and stocked brown trout, Salmo trutta L., and Arctic charr, Salverinus alpinus (L.), in a hydroelectric reservoir, 623 see also Hindar K.

Lahav E., see Viola S.

Linhart O. & Kvasnička P.: Artificial insemination in tench, Tinca tinca L., 183

Liu K.M. & Chang W.Y.B.: Bioenergetic modelling of effects of fertilization, stocking density, and spawning on growth of the Nile tilapia, Oreochromis niloticus (L.), 291

Loba S., see Wallner M.

Lund R.A. & Heggberget T.G.: Migration of Atlantic salmon, Salmo salar L., parr through a Norwegian fjord: potential infection path of Gyrodactylus salaris, 356

Lura H., see L'Abée-Lund J.H.

McEwan A.G., see Hecht T.

Macintosh D.J., see Hasan M.R.

McLay H.A., Youngson A.F., Wright R.S. & Johnstone R.: Effects of rearing density on sexual maturation and growth in sea-cage reared Atlantic salmon, Salmo salar L., 353

Manyala J.O., see Ochumba P.B.O.

Mason C.F., see Barak N.A.-E.

Menchaca J.A., see Arreguin-Sanchez F.

Mendes da Silva E., see Wallner M.

Metcalf N.B., see Simpson A.L.

Mokady S., see Avinmelech Y.

Moore A. & Riley W.D.: A sexually mature female Atlantic salmon, *Salmo salar* L., smolt, 273

Moran P., see Garcia-Vazquez E.

Muoneke M.I.: Hooking mortality of white crappie, Pomoxis annularis Rafinesque, and spotted bass, Micropterus punctulus (Rafinesque), in Texas reservoirs, 87

Murphy B.R., see Neumann R.M.

Nabeshima H., see Sugama K.

Nagata W.D. & Whyte J.N.C.: Effects of yeast and algal diets on the growth and biochemical composition of the rotifer *Brachionus plicatilis* Muller in culture, 13

Näslund I.: Survival and distribution of pond- and hatchery-reared O+ brown trout, Salmo trutta L., released in a Swedish stream, 477

Neumann R.M. & Murphy B.R.: Seasonal relationships of relative weight to body composition in white crappie, *Pomoxis annularis* Rafinesque, 243

Normant Y., see Fauvel C. see also Suguet M.

Ochumba P.B.O. & Manyala J.O.: Distribution of fishes along the Sondu-Miriu River of Lake Victoria, Kenya with special reference to upstream migration, biology and yield, 701

O'Connell M.F., see Reddin D.G.

Okimoto D.K., see Howerton R.D.

Omnes M.H., see Fauvel C, see also Suquet M. Pandian T.J., see Kavumpurath S.

Papst M.H., Dick T.A., Arnason A.N. & Engel C.E.: Effect of density on the early growth and variation in growth of juvenile Arctic charr, Salvelinus alpinus (L.), 41

Paschos J., see Pavlidis M.

Pavlidis M., Theochari V., Paschos J. & Dessypris A.: Effect of six photoperiod protocols on the spawning time of two rainbow trout, *Oncorhynchus mykiss* (Walbaum), populations in north west Greece, 431

Pendas A.M., see Garcia-Vazquez E.

Phelps R.P., Cole W. & Katz T.: Effect of fluoxymesterone on sex ratio and growth of Nile tilapia, Oreochromis niloticus (L.), 405

Pridmore R.D. & Rutherford J.C.: Modelling phytoplankton abundance in a small enclosed bay used for salmon farming, 525

Prouzet P., see Cuende F.-X.

Quartararo N, & Bell J.D.: Effect of intraperitoneal passive implantable transponder (PIT) tags on the growth and survival of juvenile snapper, *Pagrus* auratus (Bloch and Schneider), 543

Quillet E., see Krieg F. Qvenild T., see Skurdal J.

Reddin D.G., O'Connell M.F. & Dunkley D.A.: Assessment of an automated fish counter in a Canadian river, 113

Riley W.D., see Moore A.

Rosenstein S. & Hulata G.: Sex reversal in the genus Oreochromis: 1. Immersion of eggs and embryos in oestrogen solutions is ineffective, 669

Rushton-Mellor S.K.: Discovery of the fish louse, Argulus japonicus Thiele (Crustacea: Branchiura), in Britain, 269

Russell D.J. & Hales P.W.: Evaluation of techniques for marking juvenile barramundi, *Lates calcarifer* (Bloch), for stocking, 691

Rutherford J.C., see Pridmore R.D.

Sægrov H., see L'Abée-Lund J.H. Saint-Paul U., see Kohla U.

Seki S., see Sugama K.

Shackley P.E., Donaghy M.J. & Hay D.W.: An experiment in the planting of Atlantic salmon, Salmo salar L., fry, 385

Simpson A.L., Metcalf N.B. & Thorpe J.E.: A simple non-destructive method for estimating fat levels in Atlantic salmon, Salmo salar L., parr, 23

Sjaunja L.O., see Elvingson P.

Skurdal J., Ovenild T. & Taugbøl T.: Mark-recapture experiments with noble crayfish, Astacus astacus L., in a Norwegian lake, 227 see also Taugbøl T.

Sommerville C., see Subasinghe R.P.

Springborn R.R., Jensen A.L., Chang W.Y.B. & Engle C.: Optimum harvest time in aquaculture: an application of economic principles to a Nile tilapia, Oreochromis niloticus (L.), growth model, 639

Stefansson S., see Hansen T.

Subasinghe R.P. & Sommerville C.: Effects of

temperature on hatchability, development and growth of eggs and yoksac fry of *Oreochromis* mossambicus (Peters) under artificial incubation, 31

Sugama K., Taniguchi N., Seki S. & Nabeshima H.: Survival, growth and gonad development of triploid red sea bream, Pagrus major (Temminck et Schlegel): use of allozyme markers for ploidy and family identification, 149

Suquet M., Omnes M.H., Normant Y. & Fauvel C.: Influence of photoperiod, frequency of stripping and presence of females on sperm output in turbot, Scophthalmus maximus (L.), 217

see also Fauvel C.

Svåsand T., see Kristiansen T.S.

Taniguchi N., see Sugama K. Taranger G.L., see Hansen T.

Taugbøl T. & Skurdal J.: Growth, mortality and moulting rate of noble crayfish, Astacus astacus L., juveniles in aquaculture experiments, 411 see Skurdal J.

Teodorowicz M., see Wofos A. Theochari V., see Pavlidis M.

Thorogood J. & Blackshaw A.: Factors affecting the activation, motility and cryopreservation of the spermatozoa of the yellowfin bream, Acanthopagrus australis (Günther), 337

Thorpe J.E., see Simpson A.L.

Viola S., Lahav E. & Arieli Y.: Response of Israeli carp, Cyprinus carpio L., to lysine supplementation of a practical ration at varying conditions of fish size, temperature density and ration size, 49

Wallner M., Lobo S., Boccanera N. & Mendes da Silva E.: Biomass, carrageenan yield and reproductive state of *Hypnea musciformis* (Rhodophyta: Gigartinales) under natural and experimental cultivated condition, 443

Webb J.H. & Youngson A.F.: Reared Atlantic salmon, Salmo salar L, in catches of a salmon fishery on the western coast of Scotland, 393

see also Hislop J.R.G.

Wernicke D., see Kohla U. Whyte J.N.C., see Nagata W.D.

Williams E.M. & Eddy F.B.: Blood electrolyte and prolactin regulation in rainbow trout, Onchorhynchus mykiss (Walbaum), exposed to nitrite, 345

Williams E.M., Glass M.L. & Heisler N.: Blood oxygen tension and content in carp, Cyprinus carpio L., during hypoxia and methaemoglobinaemia, 679

Wohlfarth G.W.: Association between initial weight and weight gain in brook trout, Salvelinus fontinalis Mitchill, and brown trout, Salmo trutta L., 549

Wofos A., Teodorowicz M. & Grabowska K.: Effect of ground-baiting on anglers' catches and nutrient budget of water bodies as exemplified by Polish lakes, 499

Wright R.S., see McLay H.A.

Youngson A.F., see McLay H.A. see also Webb J.H.

Subject Index

Acanthopagrus australis, see bream, 337 Activation, bream spermatozoa, 337 Alga, diet, growth of rotifers, 13 Alloenzyme, markers, red sea bream, 149 Analysis, stomach contents, cod, 661 Anguilla anguilla, see eel Antarctic, shelf, benthic mollusc culture, 1 Aquaculture: brown trout, intensive marine, 557 crayfish, 411 definitions, 511 lungfish, 265 optimum harvest time, tilapia, 639 potential for Solea senagalensis, 515 Argulus japonicus, see louse Artificial, diet, sole, 515 Assessment: counter, automated, 113 stock, multispecies pelagic coastal fishery, 103 Astacus astacus, see crayfish Automation, fish counter, assessment, 113 Azolla pinnata, diet for tilapia fingerling, 167 Barramundi, techniques for marking juveniles, 691 Bass, spotted, hooking mortality, 87 Benefits, flood plain riverine systems, 599 Benthic, mollusc, culture, 1 Betta splendens, see fighting fish Biochemistry, rotifer, 13

Bioenergetic, modelling, tilapia, 291 Biology, fishes along Kenyan river, 701 Biomass, Hypnea musciformis production, 433 Biometry, estimating fat in salmon, 23 Blood:

electrolyte, rainbow trout prolactin regulation, 345 oxygen tension, carp, 679 Book reviews:

A Natural History of the Lakes, Tarns and Streams of the English Lake District, G. Fryer & S. Murphy, 726 Coastal Aquaculture Engineering, A.N. Bose, S.N. Ghosh, C.T. Yang & A. Mitra, 130 Eel Culture, 2nd Edn. A. Usui, 521

Engineering for Offshore Fish Farming. Institution of Civil Engineers, 522

Fish Evolution and Systematics: Evidence from Spermatozoa, B.G.M. Jamieson, 521

Introduction to Aquaculture, M. Landau, 725 Population Genetics: Diversity and Stability, Y.P. Altukhov, 725

Scallop Farming, D. Hardy, 129 The Biology of the Penaeidae, W. Dali, B.J. Hill, Rothlisberg P.C. & Sharples D.J., 129

Brachionus plicatilis, food on growth, 13 Bream: alloenzyme markers, 149

spermatozoa, factors affecting, 337

Cage, sea, salmon growth, 275 Carrageenan, yield, Hypnea musciformes production, 433

common, food size and body size, 315 Israeli, lysine supplement, 49

ground-baiting, effect on, 499 reared salmon, west coast Scotland, 292

Catfish, clariid: development stages, terminology, 511 low-cost diet, 175 production, high stocking density, 303 tank design, 649

Charr. Arctic:

rearing density on growth, 41 resource partitioning and spatial segregation, reservoir, 623

Chromosome:

doubling, pressure treatments, rainbow trout, 567 polymorphism, wild salmon, 95 Clarias gariepinus, see catfish

Clarias isheriensis, see catfish Cocoa-pod, husk, low cost diet for catfish, 175 Cod, stomach contents analysis, 661

Colossoma macropomum, growth and feeding, 189

inorganic nitrogen, intensive fish culture ponds, production, catfish, 303, 649

Cost, low, diet for catfish, 175 Counter, automated, assessment, 113

Crappie, white: hooking mortality, 87

seasonal weight/body composition, 243 Crayfish:

development, 411 mark-recapture experiments, 227 Cryopreservation, bream sperm, 337

Culture:

benthic molluses, Antarctic shelf, 1 rotifer, diets, 13

Cyprinus carpio, see carp

Density:

bioenergetic modelling, tilapia, 291 lysine ration supplement, carp, 49 population, eel, 59 rearing, Arctic charr, 41; salmon, 353 stocking, catfish, 303

Development:

bream, red sea, 149 catfish, early stages, terminology, 511 tilapia, temperature effects, 31

algal, rotifer growth, 13 artificial, sole, 515 Azolla pinnata for tilapia fingerling, 167 eel, two English rivers, 59 low-cost, catfish, 175 lysine supplement, carp, 49 Trichogaster, 161 yeast, on rotifer growth, 13

Display, aggressive, fighting fish triploidy, 281 Distribution:

fishes along Kenyan river, 701 salmon in fresh water, Europe, 461 sea lice on salmon under rearing conditions, 577 trout, brown, Swedish stream, 477

Draw-down, stranding, trout, 399 Dry matter, content, trout, 453

Economic, principles, tilapia aquaculture, 639 Egg, immersion in oestrogen solution, tilapia, 669 Eel:

diet, growth, density, 59 feeding stimulants, 327 Egg, development, tilapia, 31 Electrolyte, blood, trout prolactin regulation, 345 Embryo, immersion in oestrogen solution, tilapia, 669 Energy, metabolism, feeding stimulants, eels, 327 Enzyme, digestive, Colossoma macropomum, 189 Exploitation, salmon stocks, west coast, Scotland, 373

Fat:

determination, spectroscopy, trout, 453 estimation, salmon, 23 requirement, trout, rainbow, 133 Fertilization, tilapia model, 291 Fighting, fish, aggressive display, triploidy, 281 Fingerling, tilapia, diet, 167

Fishery: catches, reared salmon, west coast, Scotland, 292 coastal, pelagic, multispecies stock assessment,

coastal, pelagic, multispecies stock assessment.

103
decline, Netherlands, salmon, 253
Flagellates, bacterivorous, oyster larvae breeding, 591

Floodplain, riverine systems, benefits, 599 Flow, rate, tank design, catfish, 649 Fluoxymesterone, effects on tilapia, 405 Food:

algal diet on rotifer growth, 13
carp, food size and body size, 315
Colossoma macropomum, 189
intake, feeding stimulants, eels, 327
oyster larvae breeding, 591
pikeperch, Turkish lake, 71
salmon, escaped, Scottish coastal water, 721
yeast diet on rotifer growth, 13

Fry, salmon, planting experiment, 385

Gadus morhua, see cod Glycocen, hepatic, Colossoma macropomum, 189 Gonad, development, red sea bream, 149 Ground-baiting, effect on anglers' catches, 499 Growth:

Arctic charr, rearing density, 41 bream, red sea, 149 catfish, larvae, high stocking density, 303 Colossoma macropomum, 189 crayfish, development, 411 eel, two English rivers, 59 feeding stimulants, eels, 327 lungfish aquaculture, 265 model, tilapia, 291, 639 rearing density, salmon, 353 rotifer, yeast and algal diets, 13

salmon, different light regimes, 275 snapper, effect of intraperitoneal tags on growth, 543

tilapia, temperature effects, 31; fluoxymesterone, 405

Trichogaster, 161

Gynogenesis, mitotic, rainbow trout tetraploidy, 567 Gyrodactylus salaris, infection path, salmon parr migration, 367

Habitat, restoration, impact on salmon and trout, 489 Harvest, optimum, tilapia growth model, 639 Hatchability, tilapia, temperature effects, 31 Hatchery:

controlled production, catfish, 303, 649 draw-down, trout stranding, 399 reared trout, distribution in Swedish stream, 477 rearing identified by otoliths, 235 Hooking, mortality, white crappie, spotted bass, 87

Hooking, mortality, white crappie, spotted bass, 8 Hypoxia, carp, blood oxygen tension, 679

Incubation, artificial, tilapia, development, 31 Infection, salmon parr, migrating through fluke infection path, 367 Insemination, artificial, tench, 183

Larvae, production: catfish, 303 oyster, breeding, 591 sole, rearing and weaning, 515 turbot, 209

turbot, 209

Lates calcarifer, see barramundi

Lepeophtheirus salmonis, see sea louse

Light, regimes, salmon growth, 275

Lipid, requirements, rainbow trout, 133

Liver, glycogen, Colossoma macropomum, 189

Louse:

fish, Britain, 269
sea, on salmon under typical rearing conditions,
577
ungfish African aggregature 265

Lungfish, African, aquaculture, 265 Lysine, supplement, carp ration, 49

Management, oyster pond, 591 Mark, recapture, crayfish, 227 Markers:

alloenzyme, for ploidy and family identification,

barramundi juveniles, 691 Mathematical, programming aproach to fisheries benefit, 599

Maturation sexual: light regimes, salmon, 275 rearing density, 353

Metabolism, eel, feeding stimulants, 327 Methaemoglobinaemia, carp, blood oxygen tension, 679

Methyltestosterone, growth of tilapia, 123 Micropterus puntulatus, see bass, spotted Migration:

fishes along Kenyan river, 701 salmon parr through fluke infection path, 367 Model:

bioenergetic, tilapia, 291

growth, tilapia, 639 phytoplankton abundance in small bay, 525

Mollusc, benthic, culture, 1

mortality:

crayfish, in aquaculture experiments, 411

hooking, white crappie, 87

Motility, bream sperm, 337

Moulting, crayfish, 411

Multispecies, stock assessment, pelagic coastal fishery,

Nitrite, trout electrolyte and prolactin regulation, 345 Nitrogen, inorganic, utilization, intensive fish culture ponds, 421

Nutrient, budget, Polish lakes, 499

Oestrogen, sex reversal, tilapia. 669

Oncorhynchus mykiss, see trout rainbow, 133

Oral, administration, growth hormones, tilapia, 123

Oreochromis mossambicus, see tilapia

Oreochromis niloticus, see tilapia

Otolith, identification of hatchery-reared salmon, 235

Oyster, pond management, 591

Oxygen, blood tension, carp, 679

Pagrus auratus, see snapper

Pagrus major, see bream, red sea

Parr, salmon:

fat estimation, 23

migration through fluke infection path, 367

Pelagic, coastal fishery, multispecies stock assessment, 103

Photoperiod:

protocols, spawning time, trout, 431

turbot sperm production, 217 Phytoplankton, modelling, small bay, 525

Pikeperch, food in Turkish lake, 71

Planting, salmon fry, experiments, 385

Ploidy, alloenzyme markers, red sea bream, 149

Polymorphism, chromosome, wild Atlantic salmon, 95 Pomoxis annularis, see crappie, white,

Pond:

culture, intensive, utilization of inorganic nitrogen, 421

oyster, management, 591

Pond-reared trout:

distribution in Swedish stream, 477

stranding, draw-down, 399

Population:

density, eel, two English rivers, 59

introduced, pikeperch, Turkish lake, 71 sea lice, under typical salmon rearing conditions,

577

Pressure, treatment, chromosome doubling, rainbow trout, 567

Production:

control, catfish, 303, 649

turbot larvae, 209

Programming, mathematical, fisheries benefits, 599

Prolactin, regulation, trout, nitrate, 345

Protein:

changes with temperature, rainbow trout, 133

determination, spectroscopy, trout, 453 juvenile Trichogaster leeri growth, 161

Protocols, photoperiod, trout spawning, 431

Protopterus amphibius, see lungfish

Ration, size, carp, 49

Rearing:

condition, salmon, sea lice distribution, 577 density, growth and development of salmon, 353

larvae, sole, 515

Recapture, marked crayfish, 227

Regulation, prolactin, trout, nitrite, 345

Reproductive, state, Hypnea musciformes production, 443

Reservoir, resource partitioning, 623

Resource, partitioning, hydroelectric reservoir, 623

Restocking, Rhine, 253

Restoration, habitat, impact on trout and salmon, 489

Salmo trutta, see trout, brown

Salmo salar, see salmon, Atlantic

Salmon, Atlantic:

chromosome polymorphism, 95

distribution, fresh water, Europe, 461

escaped, feeding in Scottish coastal waters, 721 fat estimation, 23

fisheries, decline, Netherlands, 253

fry, planting experiments, 385

growth, different light regimes, 275 migration through fluke infection path, 367

otolith, hatchery-rearing identification, 235

phytoplankton modelling in small bay, 525

reared, catches, west coast, Scotland, 393

rearing density, growth and development, 353

river bed construction, 489 sea lice distribution, 57

smolt, sexually mature female, 273

stocks, exploitation, France, 373

Salvelinus alpinus, see charr, Arctic

Salvelinus fontinalis, see trout, brook Scophthalmus maximus, see turbot

Season, relationships, crappie weight/body composi-

tion, 243

Segregation, spatial, trout and charr in reservoir, 623

ratio, fluoxymesterone, effect on tilapia, 405

reversal, tilapia, 669

Size:

body, food size, carp, 315

food particle, body size, carp, 315

lysine supplement, carp, 49

Smolt, sexually mature female, 273

Snapper, juvenile, survival with intraperitoneal tags,

Sole, potential for aquaculture, 515

Solea senegalis, see sole

Spawning:

bioenergetic model, tilapia, 291

time, photoperiod, trout, 431

Spectroscopy, mid-IR, trout muscle content, 453

Sperm:

bream, factors affecting, 337

output, turbot, 217

Starvation, Colossoma macropomum, 189

Stimulants, feeding, eels, 327
Stizostedion lucioperca, see pikeperch
Stock:

assessment, multispecies, pelagic coastal fishery, 103

catfish, 303

density, tilapia model, 291

exploitation, salmon, France, 373 techniques for marking juvenile barramundi, 691

Stomach, contents, wild and cultured cod, 661 Stripping, frequency, turbot sperm production, 217 Survival:

larvae, catfish, 303

red sea bream, 149

snapper, juvenile with intraperitoneal tags, 543 trout, Swedish stream, 477

Tank, design, catfish, 649

Technique, for marking juvenile barramundi, 691 Temperature:

carp, lysine supplementation, 49 tilapia development, 31 trout, diet requirements, 133

Tench, artificial insemination, 183

Terminology, early development catfish, 511

Tetraploidy, rainbow trout, 567 Tilapia:

bioenergetic modelling, 291 development, temperature effects, 31 diet, fingerling, 167 fluoxymesterone, tilapia development, 405

fluoxymesterone, tilapia development, 405 growth, hormone administration, oral, 123 model, growth, optimum harvest time, 639

Tinca tinca, see tench

Transponder, implantable, survival of snapper juveniles, 543

Trichogaster leeri, growth, protein diets, 161 Triido-L-thyronine, tilapia growth, 123 Triploidy:

fighting fish, aggressive display, 281 red sea bream, 149

Trout, brook, initial weight and weight gain, 549 Trout, brown:

marine aquaculture, 557

resource partitioning, hydroelectric reservoir, 623 river bed construction, 489

segregation, hydroelectric reservoir, 623 stranding in pond draw-down, 399 survival in Swedish stream, 477

weight initial and weight gain, 549

Trout, rainbow:

diet requirements at elevated temperatures, 133 muscle content, spectroscopy, mid-IR, 453 nitrite exposure, electrolyte and prolactin regulation, 345

photoperiod, spawning, 431

tetraploidy, 567

Turbot: production, larvae, 209 sperm output, 217

Utilization, inorganic nitrogen, intensive fish culture ponds, 421

Variation, growth, charr, rearing density, 41

Weight:

gain, brook trout, 549 initial, weight gain, brook trout, 549 seasonal relationships, white crappie, 243

Yeast, diet, rotifer growth, 13

Yield:

carrageenan, Hypnea musciformis, 443 fishes in Kenyan river, 701 Yolksac, fry, development, temperature effects, 31